

IN THE CLAIMS

1-12. Canceled

13. (Original) A probe for analyzing an extended object, the extended object having plural sub-objects, the probe comprising a body having an edge, the edge having a thickness less than a relevant dimension of one of said sub-objects, and a length substantially greater than a relevant dimension of one of said sub-objects.

14. (Original) A probe as in claim 13 wherein said probe includes a material that hybridizes with at least one known sub-object of said plural sub-objects.

15. (Currently Amended) A probe for analyzing an object, the probe comprising a body having an analyzing region, the analyzing region having a dimension less than a relevant dimension of one (or more) of said objects, and a width substantially greater than a relevant dimension of one of said objects.

16. (Withdrawn) A probe for analyzing an extended object having a plurality of sub-objects, the probe selected from group consisting of nozzle filled with liquid, an particle beam, electron beam, x-ray beam, a light beam, or a metal, the probe including an analyzing region, the analyzing region having a dimension less than a relevant dimension

of one (or more) of said sub-objects, and a width or a path width substantially greater than a relevant dimension of one of said objects.

17. (Withdrawn) A probe for analyzing an object comprising a source of a probe beam, the probe beam having an analyzing dimension less than a relevant dimension of one (or more) of said objects, and a width or a path width substantially greater than a relevant dimension of one of said objects

18. (Withdrawn) A probe comprising  
a body portion and an active portion, the active portion having a probing dimension being a function of the thickness of a layer.

19-33. Canceled

34. (New) A probe as in claim 13, wherein said body is formed of an electrically conductive material.

35. (New) A probe as in claim 13, wherein said body is formed of a single layer or a predictable number of layers derived from a lamellar material.

36. (New) A probe as in claim 35, wherein the lamellar material is selected from the group consisting of super lattices,  $\text{MoS}_2$ ,  $\text{NbSe}_2$ ,  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_x$ , graphite, mica, boron nitride, dichalcogenides, trichalcogenides, tetrachalcogenides, pentachalcogenides and hydrotalcite-like materials.
37. (New) A probe as in claim 13, wherein said body is a single layer or a predictable number of layers of graphene.
38. (New) A probe as in claim 13, wherein the extended object to be analyzed is a biopolymer comprised of nucleobases as the sub-objects.
39. (New) A probe as in claim 13, wherein the extended object to be analyzed is a deoxyribose nucleic acid molecule comprised of nucleobases as the sub-objects.
40. (New) A probe as in claim 13, wherein the extended object to be analyzed is a ribose nucleic acid molecule comprised of nucleobases as the sub-objects.
41. (New) A probe as in claim 13, wherein the extended object to be analyzed is a polypeptide molecule comprised of amino acids as the sub-objects.
42. (New) A probe as in claim 15, wherein said body is formed of an electrically conductive material.

43. (New) A probe as in claim 15, wherein said body is formed of a single layer or a predictable number of layers derived from a lamellar material.

44. (New) A probe as in claim 43, wherein the lamellar material is selected from the group consisting of super lattices,  $\text{MoS}_2$ ,  $\text{NbSe}_2$ ,  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_x$ , graphite, mica, boron nitride, dichalcogenides, trichalcogenides, tetrachalcogenides, pentachalcogenides and hydrotalcite-like materials.

45. (New) A probe as in claim 15, wherein said body is a single layer or a predictable number of layers of graphene.

46. (New) A probe as in claim 15, wherein the extended object to be analyzed is a biopolymer comprised of nucleobases as the sub-objects.

47. (New) A probe as in claim 15, wherein the extended object to be analyzed is a deoxyribose nucleic acid molecule comprised of nucleobases as the sub-objects.

48. (New) A probe as in claim 15, wherein the extended object to be analyzed is a ribose nucleic acid molecule comprised of nucleobases as the sub-objects.

49. (New) A probe as in claim 15, wherein the extended object to be analyzed is a polypeptide molecule comprised of amino acids as the sub-objects.